WHAT IS CLAIMED IS:

1. A DNA fragment encoding a mammalian prostate specific membrane antigen-like protein selected from the group consisting of:

(a) an isolated DNA fragment which encodes a prostate specific membrane antigen-like protein;

(b) an isolated DNA fragment which hybridizes to the isolated DNA fragment of (a) above and which encodes a prostate specific membrane antigen-like protein;

(c) an isolated DNA fragment differing from the isolated DNA fragments of (a) and (b) above in codon sequence due to the degeneracy of the genetic code, and which encodes a prostate specific membrane antigen-like protein.

2. The DNA fragment of claim 1, wherein said DNA fragment has the sequence shown in SEQ ID No. 1 or fragments thereof.

3. The DNA fragment of claim 1, wherein said prostate specific membrane antigen-like protein has the amino acid sequence shown in SEQ ID No. 2 or fragments thereof.

4. A vector comprising the DNA fragment of claim 1 and regulatory elements necessary for expression of the DNA in a cell.

5. The vector of claim 4, wherein said DNA fragment encodes a prostate specific membrane antigen-like protein having the amino acid sequence shown in SEQ ID No. 2 or fragments thereof.

6. A host cell transfected with the vector of claim 4, wherein said vector expresses a prostate specific membrane antigen-like protein.

7. The host cell of claim 6, wherein said cell is selected from the group consisting of a bacterial cell, a mammalian cell, a plant cell and an insect cell.

8. An isolated and purified prostate specific membrane antigen-like protein coded for by DNA selected from the group consisting of:

(a) isolated DNA which encodes a prostate specific membrane antigen-like protein;

(b) isolated DNA which hybridizes to the isolated DNA of (a) above and which encodes a prostate specific membrane antigen-like protein; and

(c) isolated DNA differing from the isolated DNAs of (a) and (b) above in codon sequence due to the degeneracy of the genetic code, and which encodes a prostate specific membrane antigen-like protein.

9. The isolated and purified prostate specific membrane antigen-like protein of claim 8, wherein said prostate

specific membrane antigen-like protein has an amino acid sequence shown in SEQ ID No. 2 or fragments thereof.

10. An antibody directed against the prostate specific membrane antigen-like protein of claim 8.

11. A method of distinguishing prostate specific membrane antigen gene expression from prostate specific membrane antigen-like gene expression in a sample, comprising the steps of:

(a) contacting the sample with one or more oligonucleotide primer(s) under hybridizing conditions, wherein said sample comprises RNA;

(b) performing RT-PCR on said sample, thereby producing RT-PCR products;

(c) contacting said RT-PCR products with an appropriate restriction enzyme, thereby producing digested RT-PCR products; and

(d) analyzing said digested RT-PCR products, wherein prostate specific membrane antigen gene expression is distinguished

from prostate specific membrane antigen-like gene expression by detection of fragment size(s) in the digested RT-PCR products, wherein digested prostate specific membrane antigen-specific RT-PCR products comprise different predicted fragment size(s) compared with digested prostate specific membrane antigen-like-specific RT-PCR products.

12. The method of claim 11, wherein said oligonucleotide primer is selected from the group consisting of SEQ ID Nos. 5-38.

13. The method of claim 11, wherein said sample is selected from the group consisting of blood cells, cells growing in culture, biopsied cells, epithelial cells, endothelial cells, urine and seminal fluid.

14. The method of claim 11, wherein said restriction enzyme is selected from the group consisting of *Eco*RI, *Acc*I,

*Bsp*1286I, *Sse*9I, *Tsp*509I, *Tsp*EI, *Tsp*RI, *Bst*1107I, *Aci*I, *Msp*AI, *Nsp*BII, *Rsa*I, *Hae*III and *Ssp*I.

15. The method of claim 11, wherein when said oligonucleotide primers are SEQ ID No. 37 and SEQ ID No. 38, and said restriction enzyme is *Eco*RI, presence of fragment sizes of 348 nucleotides and 207 nucleotides indicates PSMA gene expression in said sample, while presence of fragment size of 555 nucleotides indicates PSMA-like gene expression in said sample.

16. The method of claim 11, wherein when said oligonucleotide primers are SEQ ID No. 37 and SEQ ID No. 38, and said restriction enzyme is *Acc*I, presence of fragment sizes of 506 nucleotides and 49 nucleotides indicates prostate specific membrane antigen gene expression in said sample, while presence of fragment sizes of 319 nucleotides, 187 nucleotides and 49 nucleotides indicates prostate specific membrane antigen-like gene expression in said sample.

17. A method of distinguishing prostate specific membrane antigen protein from prostate specific membrane antigen-like protein in a sample, comprising the steps of:

(a) contacting a sample with at least one antibody specific for a prostate specific membrane antigen protein and/or at least one antibody specific for a prostate specific membrane antigen-like protein under appropriate conditions; and

(b) detecting binding of said antibody or antibodies, wherein binding is indicative of the presence of prostate specific membrane antigen and/or prostate specific membrane antigen-like proteins in said sample.

18. The method of claim 17, wherein said sample is selected from the group consisting of blood cells, cells growing in culture, biopsied cells, epithelial cells, endothelial cells, urine and seminal fluid.

19. The method of claim 17, wherein said antibody specific for a prostate specific membrane antigen protein is specific

for a region of said prostate specific membrane antigen protein and does not cross-react with a prostate specific membrane antigen-like protein.

20. The method of claim 17, wherein said antibody specific for a PSMA-like protein is specific for a region of said PSMA-like protein and does not cross-react with a PSMA protein.

21. The method of claim 17, wherein upon binding, said detecting is by means selected from the group consisting of a colorimetric assay, fluorescence, radioautography, nuclear medicine detection, electron microscopy, enzymatic assays, enzyme-linked immunoassays and MRI.

22. A vector for targeted gene therapy, comprising:

(a) a promoter/enhancer region from a gene selected from the group consisting of a prostate specific membrane antigen gene or a prostate specific membrane antigen-like gene; and

(b) a therapeutic gene.

23. The vector of claim 22, wherein when said promoter/enhancer region is from a prostate specific membrane antigen gene, said targeting is to regions selected from the group consisting of prostate tissues and tumor neovasculature of solid tumors, and wherein when said promoter/enhancer region is from a prostate specific membrane antigen-like gene, said targeting is to non-prostate tissues.

24. A method of screening for prostate specific membrane antigen-like ligands, comprising the steps of:

(a) contacting a prostate specific membrane antigen-like protein or fragment thereof with potential ligands under conditions that permit protein-protein binding;

(b) removing non-specific protein-protein binding; and

(c) eluting protein bound to said prostate specific membrane antigen-like protein or fragment thereof, wherein said protein bound to said prostate specific membrane antigen-like protein or fragment thereof is a ligand for said prostate specific membrane antigen-like protein.

25. A method of screening for prostate specific membrane antigen ligands, comprising the steps of:

(a) contacting a prostate specific membrane antigen protein or fragment thereof with potential ligands under conditions that permit protein-protein binding;

(b) removing non-specific protein-protein binding; and

(c) eluting protein bound to said prostate specific membrane antigen protein or fragment thereof, wherein said protein bound to said prostate specific membrane antigen protein or fragment thereof is a ligand for said prostate specific membrane antigen protein.

26. A method of imaging cells expressing a prostate specific membrane antigen-like protein, comprising the steps of:

(a) administering to the cells at least one compound directed towards a prostate specific membrane antigen-like protein, wherein said compound is labeled with an imaging agent; and

(b) detecting said imaging agent in said cells.

27. The method of claim 26, wherein said compound is selected from the group consisting of an antibody and a ligand.

28. A method of imaging cells expressing a prostate specific membrane antigen protein, comprising the steps of:

(a) administering to the cells at least one compound directed towards a prostate specific membrane antigen protein, wherein said compound is labeled with an imaging agent; and

(b) detecting said imaging agent in said cells.

29. The method of claim 28, wherein said compound is selected from the group consisting of an antibody and a ligand.

30. A cytotoxic composition, comprising:

(a) a compound specific for a prostate specific membrane antigen protein or fragment thereof, or a prostate specific membrane antigen-like protein or fragment thereof; and

(b) a cytotoxic agent.

31. The cytotoxic composition of claim 30, wherein said compound is selected from the group consisting of an antibody and a ligand.

32. The cytotoxic composition of claim 30, wherein said cytotoxic agent is selected from the group consisting of a radioisotope and a toxin.

33. A pharmaceutical composition, comprising:

(a) an antibody directed against a prostate specific membrane antigen protein, wherein said antibody does not recognize a prostate specific membrane antigen-like protein; and

(b) a carrier.

34. A method of diagnosing a cancer in an individual, comprising the steps of:

(a) administering the composition of claim 33 to said individual; and

(b) detecting the localization of the antibody, wherein the detection of said antibody indicates a possibility of having a cancer in said individual.

35. The method of claim 34, wherein said cancer is selected from the group consisting of a prostate cancer, a bladder cancer, a pancreatic cancer, a sarcoma, a melanoma, a lung cancer and a kidney cancer.

36. A method of diagnosing a neurological disorder in an individual, comprising the steps of:

(a) administering the composition of claim 33 to said individual; and

(b) detecting the localization of the antibody, wherein the detection of said antibody indicates a possibility of having a neurological disorder in said individual.

37. The method of claim 36, wherein said neurological disorder is schizophrenia.

38. A method of inducing cell death in a cell, comprising the step of transfecting said cell with a vector expressing PSMA-like protein.

39. The method of claim 38, wherein said cell is a prostrate cancer cell.

40. The method of claim 39, wherein said prostrate cancer cell is a PC3 prostrate cancer cell.

41. A method of inhibiting cell death, comprising the step of inhibiting PSMA-like gene expression in a cell.

42. A method of inhibiting cell death, comprising the step of administering an inhibitor of PSMA-like protein to a cell.